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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Ex parte ANDREW ELLINGTON

Appeal 2008-1878
Application 09/776,252
Technology Center 1600

Decided: January 22, 2009

Before TONI R. SCHEINER, DEMETRA J. MILLS, and RICHARD M. LEBOVITZ, *Administrative Patent Judges*.

MILLS, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF CASE

This is an appeal under 35 U.S.C. § 134. The Examiner has rejected the claims for lack of written description, anticipation and obviousness. We have jurisdiction under 35 U.S.C. § 6(b).

Claims

The following claims are representative:

29. A method of transducing a conformational change in a signaling aptamer upon binding a ligand to an optical signal, the method comprising:
(a) providing a signaling aptamer comprising a reporter molecule covalently coupled to an aptamer, wherein in an unbound state an optical signal produced by the reporter molecule is quenched by the aptamer's conformation and not by means of a separate quenching molecule covalently coupled to the signaling aptamer, relative to the optical signal produced by the reporter molecule when the aptamer undergoes a conformational change upon binding to its ligand;
(b) contacting the signaling aptamer with the ligand under conditions whereby the signaling aptamer binds the ligand; and
(c) detecting the optical signal produced by the reporter molecule as a result of the conformational change to the signaling aptamer upon binding the ligand.

30. The method of claim 29, further comprising the step of quantitating the amount of ligand bound to the signaling aptamer.

38. The method of claim 29, wherein the signaling aptamer is an anti-adenosine signaling aptamer.

Cited References

Royer	US 5,445,935	Aug. 29, 1995
Szostak	US 5,631,146	May 20, 1997
Pitner	US 5,650,275	Jul. 22, 1997
Gold	US 6,242,246 B1	Jun. 5, 2001

Grounds of Rejection

1. Claims 29-43 stand rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description requirement.

2. Claims 29-37 and 40-43 stand rejected under 35 U.S.C. § 102(e) as being anticipated by Gold as defined by Pitner.

3. Claims 29-37 and 40-43 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Royer.

4. Claims 38-39 stand rejected under 35 U.S.C. § 103(a) as being obvious in view of Gold as defined by Pitner in view of Szostak.

1. Claims 29-43 stand rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description requirement.

ISSUE

The Examiner contends that the phrase "not by means of a separate quenching molecule" is new matter unsupported by the Specification. (Ans. 3.)

Appellant contends that the Specification supports the phrase "not by means of a separate quenching molecule." (App. Br. 5-6.)

The issue is: Does the Specification support the phrase "not by means of a separate quenching molecule" as claimed?

FINDINGS OF FACT (FF)

1. Claim 29 (from which all other claims depend) has been amended to recite "not by means of a separate quenching molecule."

2. According to Appellant, the Specification teaches two aptamers having fluorescing moieties incorporated, e.g., ATP-R-Acl3 has an acridine moiety replacing an adenosine at position 13 and DFL708 has a fluorescein

molecule inserted between residues 7 and 8. These aptamers do not have separate quenching molecules covalently coupled to the aptamer. (App. Br. 6.)

3. The Specification defines a "signaling aptamer" as an aptamer with reporter molecules, the reporters providing a differential signal upon aptamer/ligand interaction (Spec. 14: 13- 17).

4. The Specification further teaches, the term "reporter molecule" shall include, but is not limited to, dyes that signal via fluorescence, colorimetric intensity, anisotropy, polarization, lifetime, or changes in emission or excitation wavelengths. (Spec. 14-15.)

5. Reporter molecules may also include molecules that undergo changes in their electrochemical state, such as in an oxidation-reduction reaction wherein the local environment of the electron carrier changes the reducing potential of the carrier, or may include enzymes that generate signals such as beta-galactosidase or luciferase. (Spec. 15.)

6. The present Specification provides the following descriptions of a method of transducing a conformational change in a signaling aptamer upon binding a ligand to an optical signal (the paragraph numbers are according to the numbering in Publication No. US 200110046674):

> 14. **[0012]** In one embodiment of the present invention there is provided a method of transducing the conformational change of a signaling aptamer upon binding a ligand to a differential signal, generated by a reporter molecule comprising the steps of contacting the signaling aptamer with the ligand wherein the signaling aptamer binds the ligand; and detecting the differential signal generated by the reporter molecule resulting from the conformational change of the signaling aptamer upon binding the ligand thereby transducing the conformational change.

> 15. **[0013]** In another embodiment of the present invention there is provided a method of transducing the conformational change of a signaling aptamer upon binding a ligand to an optical signal generated by a fluorescent dye. This method comprising the steps of contacting the signaling aptamer with the ligand wherein the signaling aptamer binds the ligand; and detecting the optical signal generated by the fluorescent dye resulting from the conformational change of the signaling aptamer upon binding the ligand thereby transducing the conformational change.

(Spec. 6-7; see also App. Br. 7.)

PRINCIPLES OF LAW

When new matter is added to the claims, the proper course of action is to reject said claims for failing to satisfy the written description requirement of §112, first paragraph. *In re Rasmussen,* 650 F.2d 1212, 1214 (CCPA 1981)("The proper basis for rejection of a claim amended to recite elements thought to be without support in the original disclosure, therefore, is § 112, first paragraph ..."). The purpose of the written description requirement is to "ensure that the scope of the right to exclude, as set forth in the claims does not overreach the scope of the inventor's contribution to the field as far as described in the patent specification." *Reiffin v. Microsoft Corp.*, 214 F.3d 1342, 1345 (Fed. Cir. 2000). To that end, to satisfy the written description requirement, the inventor "must convey with reasonable clarity to those skilled in the art that, as of the filing date sought, he or she was in possession *of the invention*" [first emphasis added]. *Vas-Cath Inc. v. Mahurkar*, 935 F.2d 1555, 1563-64, (Fed. Cir. 1991). "One shows that one is 'in possession' of *the invention* by describing *the invention*, with all its claimed limitations"

[emphases in original]. *Lockwood v. American Airlines,* 107 F.3d 1565, 1572 (Fed. Cir. 1997).

It is not necessary for the Specification to describe the claimed invention *ipsissimis verbis*; all that is required is that it reasonably convey to those skilled in the art that, as of the filing date sought, the inventor was in possession of the claimed invention. *Union Oil of California v. Atlantic Richfield Co*., 208 F.3d 989, 997 (Fed. Cir. 2000); *Vas-Cath Inc. v. Mahurkar,* 935 F.2d at 1563-64; *In re Gosteli,* 872 F.2d 1008, 1012 (Fed. Cir. 1989); *In re Edwards*, 568 F.2d 1349, 1351-52 (CCPA 1978).

ANALYSIS

Appellant asserts that a person of skill in the art would recognize a disclosure of the invention defined in the claims, and that Appellant was in possession of the invention at the time the application was filed. (App. Br. 8.)

We agree. In our view the Specification, when read by one of ordinary skill in the art, supports the phrase "not by means of a separate quenching molecule" as claimed. In particular, the examples of aptamers presented in the Specification do not possess a separate quenching molecule. (FF 2, 4 and 6.)

CONCLUSION OF LAW

The Specification supports the phrase "not by means of a separate quenching molecule" as claimed. The written description rejection is reversed.

2. Claims 29-37 and 40-43 stand rejected under 35 U.S.C. § 102(e) as being anticipated by Gold as defined by Pitner. Claim 29 is representative. 37 C.F.R. § 41.37(c)(1)(vii).

ISSUE

Appellant contends that

> Gold does not teach a method that comprises providing a signaling aptamer comprising a reporter molecule covalently coupled to an aptamer, wherein in an unbound state an optical signal produced by the reporter molecule ***is quenched by the aptamer's conformation and not by means of a separate quenching molecule covalently coupled to the signaling aptamer***, relative to the optical signal produced by the reporter molecule when the aptamer undergoes a conformational change upon binding to its ligand.

(App. Br. 8-9.)

The Examiner finds that "Pitner defines the ligand labeling as covalent (col., 5, ll. 7-9). Because Gold et al teaches the signaling aptamers are labeled using the method of Pitner and because Pitner teaches the aptamer [sic reporter (dye)] is covalently coupled to the aptamer, Gold et al anticipates the covalently coupled aptamer-reporter as claimed." (Ans. 5.)

The issue is: does Gold teach each element claimed, especially wherein in an unbound state an optical signal produced by the reporter molecule is quenched by the aptamer's conformation and not by means of a separate quenching molecule covalently coupled to the signaling aptamer?

FINDINGS OF FACT

7. According to the Specification, page 15 "'conformational changes' shall include, but is [sic] not limited to changes in spatial arrangements including subtle changes in a chemical environment without a concomitant spatial arrangement."

8. According to the Examiner, Gold teaches a signaling aptamer. The signaling aptamer includes a reporter molecule e.g., fluorescence label, luminescent label and near IR label (col. 15, ll. 49-56), covalently coupled to an aptamer, i.e. the labeled aptamer is prepared by methods taught by Pitner, U.S. Patent No. 5,650,275 (col. 15, ll. 44-59). The signaling aptamer does not have a quenching molecule covalently coupled to the aptamer. (Ans. 5.)

9. In a particular embodiment of Gold, a nucleic acid ligand (aptamer) is labelled with a phosphorescent group. Nucleic acid ligands with specifically bound target molecules will phosphoresce. Nucleic acids (aptamers) that are unbound will be quenched. (Gold, Col. 15, l. 65 to col. 16, ll. 24.) (Ans. 5.) Thus, the quencher molecule is not covalently bound to the aptamer. While the medium may contain quenching agents that quench phosphorescence (col. 16, ll. 8-10) these quenching agents provide subtle changes in a chemical environment without a concomitant spatial arrangement, within Appellant's Specification definition of "conformational change."

10. Gold teaches the aptamers are produced using the method of Pitner et al (Gold, col. 15, ll. 46-47). Pitner teaches labels include fluorescent label, luminescent label and near IR label (Pitner, col. 4, ll. 32-43). (Ans. 7.) Pitner defines the ligand labeling as covalent (col. 5, ll. 7-9). (Ans. 5.)

11. According to the Examiner, Gold teaches the labels on the nucleic acid ligands (i.e., aptamers) "undergo a detectable change in fluorescence intensity, fluorescence polarization or fluorescence lifetime upon binding" (col. 15, ll. 49-52) and provides a variety of labels useful in their method (col. 15, ll. 52-62). Thus, the Gold disclosure is not limited to a quenching molecule. (Ans. 7.)

12. The labels of Gold are encompassed by the instantly claimed reporter molecules as defined in the instant Specification (paragraph spanning pages 14-15). (Ans. 7.)

13. The Specification indicates that aptamers are readily synthesized and dyes are introduced easily into specific sites of the aptamer. (Spec. 6.) Aptamer labels include acridine dyes, and fluorescein. (Spec. 9.)

14. Pitner discloses that the luminescent labels include acridinium esters and fluorescein. (Pitner, col. 4, ll. 8-17.)

15. The Examiner finds that, in another embodiment of Gold, unbound signaling aptamer is quenched relative to the signal when aptamer undergoes a conformational change upon binding its ligand (col. 13, ll. 37-59 and Fig. 5)." (Ans. 5.)

16. The Examiner finds that Gold teaches that the nucleic acid (aptamer) may be labeled with fluorescein… or any other fluorescent molecule known in the art. (Gold, col. 1, ll. 47-53.) Gold teaches numerous labels other than quenchers, the labels include fluorescent label, luminescent label and near IR label (col. 15, ll. 49-56). (Ans. 6.)

17. The Examiner reasons that, "[b]ecause Gold teaches the signaling aptamers are labeled using the method of Pitner and because Pitner teaches

the aptamer [sic reporter (dye)] is covalently coupled to the aptamer, Gold et al anticipates the covalently coupled aptamer-reporter as claimed." (Ans. 5.)

18. Gold also illustrates the embodiment of conformational change using a fluorescent-quencher (F-Q) pair (Fig. 5), and teaches a variety of other labels are used in the method (col. 15, ll. 44-65; col. 15, l. 65 to col. 16, ll. 24.)

PRINCIPLES OF LAW

The standard under § 102 is one of strict identity. "Under 35 U.S.C. § 102, every limitation of a claim must identically appear in a single prior art reference for it to anticipate the claim." *Gechter v. Davidson*, 116 F.3d 1454, 1457 (Fed. Cir. 1997). "Every element of the claimed invention must be literally present, arranged as in the claim." *Richardson v. Suzuki Motor Co., Ltd.,* 868 F.2d 1226, 1236 (Fed. Cir. 1989).

ANALYSIS

Appellant contends that

> Gold does not teach a method that comprises providing a signaling aptamer comprising a reporter molecule covalently coupled to an aptamer, wherein in an unbound state an optical signal produced by the reporter molecule ***is quenched by the aptamer's conformation and not by means of a separate quenching molecule covalently coupled to the signaling aptamer***, relative to the optical signal produced by the reporter molecule when the aptamer undergoes a conformational change upon binding to its ligand.

(App. Br. 8-9.) We are not persuaded by Appellant's argument. Appellant's discussion of Figure 5 of Gold (App. Br. 9), does not

correspond with the embodiment disclosed at Gold, columns 15 and 16. With regard to Appellant's argument on page 9 of the Brief regarding the structure of the aptamer, we note that the claims are not limited to the aptamer structure shown in Fig. 2 of the Specification.

We find that Gold teaches each element claimed. As in the pending claims, Gold teaches a nucleic acid covalently bound to a dye or fluorescein or phosphorescent molecule (signaling aptamer). (FF 8, 9, 10, 12.) Phosphorescence is quenched in the unbound state of the aptamer and detected in the bound state of the aptamer with its ligand. (FF 9.) When the aptamer of Gold binds to its ligand, a change in fluorescence is detected. (FF 9, 11.)

While, in one embodiment of Gold, the medium may contain quenching agents that quench phosphorescence (col. 16, ll. 8-10) these quenching agents are not covalently bound to the aptamer and provide subtle changes in a chemical environment without a concomitant spatial arrangement of the aptamer, within Appellant's Specification definition of "conformational change." (FF7.) In other words, based on the Specification's definition of conformational changes to include changes in the environment, and giving the claims their broadest reasonable interpretation consistent with this disclosure, we interpret the claimed requirement that the "reporter molecule is quenched by the aptamer's conformation" to include quenching by unattached molecule's in the aptamer's environment.

Appellant has failed to rebut the Examiner's prima facie case of anticipation and failed to show that the quenching agents in the medium of Gold covalently bind to the aptamer.

CONCLUSION OF LAW

Gold teaches each element claimed, including an optical signal produced by the reporter molecule in its unbound state that is quenched by the aptamer's conformation and not by means of a separate quenching molecule covalently coupled to the signaling aptamer.

The anticipation rejection is affirmed.

3. Claims 29-37 and 40-43 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Royer. Claim 29 is representative.

ISSUE

Appellant contends that "Royer does not teach a method that comprises providing a signaling aptamer comprising a reporter molecule covalently coupled to an aptamer, wherein in an unbound state an optical signal produced by the reporter molecule ***is quenched by the aptamer's conformation and not by means of a separate quenching molecule covalently coupled to the signaling aptamer***, relative to the optical signal produced by the reporter molecule when the aptamer undergoes conformational change upon binding to its ligand." (App. Br. 10.)

The Examiner finds that "Royer discloses a method of transducing a conformational change in a signaling aptamer, the method comprising the steps of providing a signaling aptamer comprising a covalently bound reporter molecule that is not a quenching molecule (fluorescent Label …), wherein signal from the unbound aptamer is quenched relative to the aptamer bound to the target …, the method comprising the steps of contacting the aptamer with the ligand and detecting the optical signal produced by the aptamer upon ligand binding..." (Ans. 8.)

The issue is does Royer disclose each element claimed, including a signaling aptamer comprising a reporter molecule covalently coupled to an aptamer, wherein in an unbound state an optical signal produced by the reporter molecule is quenched by the aptamer's conformation and not by means of a separate quenching molecule covalently coupled to the signaling aptamer.

FINDINGS OF FACT

19. The Examiner finds, "[r]egarding Claim 29, Royer discloses a method of transducing a conformational change in a signaling aptamer, the method comprising the steps of providing a signaling aptamer comprising a covalently bound reporter molecule that is not a quenching molecule (fluorescent label (col. 6, ll. 34-47), wherein signal from the unbound aptamer is changed relative to the aptamer bound to the target (col. 4, ll. 10-47), the method comprising the steps of contacting the aptamer with the ligand and detecting the optical signal produced by the aptamer upon ligand binding (Fig. 1)." (Ans. 8.)

20. The Specification, pages 5-6, states that it is known in the art that "[a]ptamers generally undergo an 'induced fit' conformational change in the presence of their cognate ligands, and thus appended dye easily undergoes a ligand-dependent change in its local environment."

21. The Specification, page 11, states that "examples of optical signals are fluorescence, colorimetric intensity, anisotropy, polarization lifetime, emission wavelength, and excitation wavelength."

22. Royer discloses that "fluorescence polarization detection is based upon the increase in the rotational correlation time of the probe covalently linked to the oligonucleotide as a result of the increase in the size of the tumbling particle when the protein or other macromolecule is complexed with it, compared to the rotational correlation time of the fluorescently labeled oligonucleotide in the absence of interacting molecules." (Royer, col. 4, ll. 10-29.)

23. Royer discloses that an object of the invention is to provide diagnostic methods which are based upon measuring the binding of a polynucleotide to a second polynucleotide, or alternatively to a protein, by means of quantitation of the polarization of the emission from a fluorophore covalently attached to either said polynucleotide. (Royer, col. 3, ll. 14-19.)

24. The term "quench" means "to suppress:dampen". Webster's II New Riverside Dictionary, Riverside Publishing Co., Boston, MA (1994). The claim does not specify the level of suppression or dampening and thus any suppression meets the claim limitation.

PRINCIPLES OF LAW

The standard under § 102 is one of strict identity. "Under 35 U.S.C. § 102, every limitation of a claim must identically appear in a single prior art reference for it to anticipate the claim." *Gechter v. Davidson*, 116 F.3d 1454, 1457 (Fed. Cir. 1997). "Every element of the claimed invention must be literally present, arranged as in the claim." *Richardson v. Suzuki Motor Co., Ltd.,* 868 F.2d 1226, 1236 (Fed. Cir. 1989). During prosecution claims are to be given their broadest reasonable interpretation. *In re Buszard*, 504 F.3d 1364, 1366-67 (Fed. Cir. 2007).

ANALYSIS

Appellant contends that according to the Royer method, the target compound is detected by a change in polarization value which is the result of the slowing of the fluorescently labeled molecule's tumbling speed. In contrast, according to the method of the present invention the change in optical signal is the result of a conformational change to the signaling aptamer. (App. Br. 10-11.)

The Examiner asserts

> Royer et al specifically teaches detection of differential signal upon aptamer/ligand binding, the differential signal resulting from "complex formation" and "increase in size of the tumbling particle when . . . . complexed" (Column 4, lines 13-26) wherein the signal is fluorescence polarization or anisotropy (Column 4, lines 21-24 and Column 7, lines 39-42).
>
> The instant claims are drawn to detecting an optical signal resulting from conformational change upon ligand/aptamer binding. The specification defines "conformational changes" as "not limited to, changes in spatial

> arrangements including subtle changes in chemical environment without a concomitant spatial arrangement." (page 15, lines 17-20). The instant specification further defines "optical signals" as inclusive of fluorescence, colorimetric intensity, anisotropy, polarization (page 11, lines 20-21).
> The complex formation and resulting increased size are encompassed by the conformational changes as defined by the instant specification. Furthermore, the optical signal detection of Royer is encompassed by that defined in the specification.

(Ans. 9.)

We find that the Examiner has the better argument. Appellant has chosen to define "conformational changes" to include "changes in chemical environment without a concomitant spatial arrangement." (FF 7.) Appellant further defined optical signals to include changes in polarization. (FF 21.) Therefore, while Appellant would argue that Royer does not teach conformational changes in the aptamer/ligand complex, it would reasonably appear that complexing of the ligand to the aptamer and the resulting change in polarization is within the scope of "conformational changes" defined by Appellant in the Specification. Appellant has failed to indicate why the same measurement of anisotropy and/or polarization upon ligand/aptamer binding (FF21, 22) does not inherently result in a suppression of the polarization angle or anisotropic signal, consistent with the Specification.

CONCLUSION OF LAW

Royer teaches each element claimed. The rejection for anticipation over Royer is affirmed.

4. Claims 38-39 stand rejected under 35 U.S.C. § 103(a) as being obvious in view of Gold as defined by Pitner in view of Szostak.

ISSUE

Appellant contends that Gold does not teach each claimed element. (App. Br. 11.)

The Examiner contends that "[I]t would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to apply anti-adenosine aptamers of Szostak et al to the target detection of Gold et al for the expected benefits of purification and in vivo quantification of an important target molecule as taught by Szostak et al (col. 18, ll. 31-42)." (Ans. 10.)

The issue is has the Appellant pointed to error in the Examiner's prima facie case of obviousness.

FINDINGS OF FACT

23. "Regarding Claim 38-39, Gold discloses a method of transducing a conformational change in a signaling aptamer, the method comprising the steps of providing a signaling aptamer (reporter molecule covalently coupled to an aptamer, i.e. the labeled aptamer is prepared by methods taught by Pitner, U.S. Patent No. 5650275 (col. 15, ll. 44-59), wherein unbound sign-aptamer is quenched relative to the signal when aptamer undergoes a conformational change upon binding its ligand (col. 13, ll. 37-59 and Fig. 5)." (Ans. 9-10.)

24. The method further comprises, containing the signaling aptamer with the ligand for binding and detecting signal produced by the reporter (col. 13, ll. 37-59 and Fig. 5).
25. "Gold teaches their method is useful for detecting a variety of ligands for diagnosis of numerous important ligand-specific diseases (col. 7, l. 48 - col. 8, l. 13)." (Ans. 10.)
26. Gold does not teach the aptamers are anti-adenosine RNA or DNA aptamer wherein the former is ATP-RAC13 and the latter is DFL7-8 and the ligand (target molecule) is adenosine. (Ans. 10.)
27. Szostak teaches "anti-adenosine triphosphate and anti-adenosine DNA aptamers prepared by the same process (column 4, l. 56 - column. 6, l. 9) and they further teach anti-adenosine aptamers are especially useful for ATP purification and in vivo quantification (column 18; ll. 31-42)." (Ans. 10.)
28. The Examiner finds that "[i]t would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to apply anti-adenosine aptamers of Szostak to the target detection of Gold for the expected benefits of purification and in vivo quantification of an important target molecule as taught by Szostak et al (col. 18, ll. 31-42)." (Ans. 10.)

PRINCIPLES OF LAW

"In rejecting claims under 35 U.S.C. § 103, the examiner bears the initial burden of presenting a prima facie case of obviousness." *In re Rijckaert*, 9 F.3d 1531, 1532, (Fed. Cir. 1993) (citations omitted). Only if that burden is met, does the burden of coming forward with evidence or argument shift to the applicant. In order to determine whether a prima facie

case of obviousness has been established, we considered the factors set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 17 (1996); (1) the scope and content of the prior art; (2) the differences between the prior art and the claims at issue; (3) the level of ordinary skill in the relevant art; and (4) objective evidence of nonobviousness, if present.

"[A] patent composed of several elements is not proved obvious merely by demonstrating that each element was, independently, known in the prior art. Although common sense directs caution as to a patent application claiming as innovation the combination of two known devices according to their established functions, it can be important to identify a reason that would have prompted a person of ordinary skill in the art to combine the elements as the new invention does." *KSR Int'l Co. v. Teleflex Inc.*, 127 S. Ct. 1727, 1731 (2007). In determining whether a reason exists to combine prior art references a court may "consider the inferences and creative steps a person of ordinary skill in the art would employ." *Id.*

ANALYSIS

Appellant traverses this rejection arguing essentially that Szostak fails to overcome previously noted deficiencies of Gold. (App. Br. 11.) As discussed above, we find that Gold teaches each element claimed. We do not find Appellant has pointed to any error in the Examiner's prima facie case of obviousness. Appellant has failed to rebut the Examiner's prima facie case of obviousness.

CONCLUSION OF LAW

We do not find Appellant has pointed to error in the Examiner's prima facie case of obviousness. Appellant has failed to rebut the Examiner's prima facie case of obviousness. The obviousness rejection is affirmed.

SUMMARY

The written description rejection is reversed. The anticipation and obviousness rejections are affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a).

AFFIRMED-IN-PART

Ssc

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